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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/576,181

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Astrid Mauler-Machnik

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BAYER CROPSCIENCE LP

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EXAMINER

BROOKS, KRISTIE LATRICE

ART UNIT

PAPER NUMBER

1616

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/576,181	<b>Applicant(s)</b> MAULER-MACHNIK ET AL.	
	<b>Examiner</b> KRISTIE L. BROOKS	<b>Art Unit</b> 1616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 09 January 2009.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 9 and 11-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 9 and 11-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on January 9, 2009 has been entered.

### ***Status of Application***

2. Claims 9 and 11-15 are pending.
3. Receipt and consideration of Applicants remarks filed November 17, 2008 is acknowledged.

### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

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1. Determining the scope and contents of the prior art.
  2. Ascertaining the differences between the prior art and the claims at issue.
  3. Resolving the level of ordinary skill in the pertinent art.
  4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
5. Claims 9 and 11-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jautelat et al (5,789,430) in view of Latteur et al. (Effects of 20 fungicides on the infertility of conidia of the aphid entomopathogenic fungus *Erynia neoaphidis*, *BioControl*, 47:435-444, 2002), further in view of Eicken et al. (US 6,503,932) and Valcke et al. (US 5,397,795).

Applicant claims an active compound combination comprising a compound of formula (i) (spiroxamine), formula (II) (prothioconazole), and formula (III) (tebuconazole).

**Determination of the scope and content of the prior art**  
**(MPEP 2141.01)**

Jautelat et al. teach triazolyl derivatives of formula (I), such as prothioconazole, and their use as microbiocides in plant protection (see the abstract). The triazolyl derivatives have a powerful microbiocidal action that can be employed to control undesirable microorganisms, preferably fungi (see column 29 lines 57-60 and column 31 lines 5-11). A triazolyl derivative can be formulated with another fungicidally active compound to widen the spectrum of action or prevent the buildup of resistance,

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thus resulting in a synergistic effect (see column 32 lines 26-31). An example of a fungicide that can be used in the formulation is tebuconazole (see column 33 line 21). The active compounds are generally present in an amount between 0.1 and 95% by weight or 0.001 to 50g per kilogram of seed (see column 32 lines 21-23 and column 34 lines 43-45). The active compounds can be formulated with extenders, surfactants, etc. and formulated into solutions, emulsifiable concentrates, suspensions, powders, foams, etc (see column 31 lines 35-41 and column 34 lines 27-37). The compositions can be applied to parts of plants, seeds, vegetable propagation stock, industrial material (see column 30 lines 4-55).

**Ascertainment of the difference between the prior art and the claims**  
**(MPEP 2141.02)**

Jautelat et al. do not teach the fungicide, spiroxamine. Jautelat et al. do not teach the instant ratios of the active compounds of formula (I) (spiroxamine) to active compound of formula (II)(prothioconazole) is from 1:01 to 1:10 and to the active compound of formula (III) (tebuconazole) is from 1:0.05 to 1:10. This deficiency is cured by the teachings of Latteur et al., Eicken et al. and Valcke et al.

Jautelat et al. and Latteur et al do not teach the instantly claimed ratio of the active compounds of formula (I) (spiroxamine) to active compound of formula (II)(prothioconazole) is from 1:01 to 1:10 and to the active compound of formula (III) (tebuconazole) is from 1:0.05 to 1:10. This deficiency is cured by the teachings of Eicken et al. and Valcke et al.

Latteur et al. teach the effect of fungicides such as spiroxamine and tebuconazole on the infectivity of conidia of the entomopathogenic fungus, *Erynia neoaphidis* (see the abstract). The fungicides were diluted with water and applied to broad bean leaves infected with the fungus (see *Chemicals* on page 437). The dose tested (a.i./ha) was 750g for spiroxamine and 250g for tebuconazole (see Table 1 on page 439). Spiroxamine and tebuconazole totally inhibited the infectivity of the fungi (see the abstract).

Eicken et al. teach fungicidal mixtures comprising a compound of formula (I) and a compound of formula (II) (spiroxamine) (see the abstract and column 1 lines 48-50). The formulations generally comprise 0.1 to 95% by weight of compound II (spiroxamine) (see column 4 lines 27-30).

Valcke et al. teach antifungal compositions comprising tebuconazole (see the abstract). The active ingredients (i.e. tebuconazole) are preferably present in an amount ranging from 0.01 to 95% by weight (see column 4 lines 65-68).

### **Finding of prima facie obviousness**

#### **Rational and Motivation (MPEP 2142-2143)**

One of ordinary skill in the art would have been motivated to make a composition comprising spiroxamine, tebuconazole, and prothioconazole because Jautelat et al. teach the combination of prothioconazole and tebuconazole widens the spectrum of

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activity against fungi. Although Jautelat et al. do not teach spiroxamine, Latteur et al. suggests that spiroxamine can completely inhibit the infectivity of fungi.

Thus, it would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to make a composition comprising spiroxamine, tebuconazole, and prothioconazole, to further widen the spectrum of activity against the fungi and to prevent the buildup of resistance. Furthermore, it would have been obvious to one of ordinary skill in the art to combine compounds that are taught by the prior art to be useful for the same purpose (*In re Kerkhoven*, 626 F.2d 846, 850, 205 USPQ 1069, 1072 (CCPA 1980)).

Although Jautelat et al. and Latteur et al. do not teach the instant ratios of the active compounds of formula (I) (spiroxamine) to active compound of formula (II)(prothioconazole) is from 1:01 to 1:10 and to the active compound of formula (III) (tebuconazole) is from 1:0.05 to 1:10, prothioconazole, tebuconazole, and spiroxamine are all highly effective fungicides that are already known in the art to be present in the amount of 0.1 to 95% by weight in fungicidal formulations as suggested by Jautelat et al., Eicken et al. and Valcke et al.

Thus, it would have been obvious to one of ordinary skill in the art to utilize the ratios cited in the instant claims because the amount of actives cited in the prior art references are similar and encompass a very broad amount that can be used in fungicidal formulations. And when utilizing the amounts of actives cited in Jautelat et al., Eicken et al. and Valcke et al., the ratio does encompass the range cited in the instant

claims. Furthermore, it is merely routine optimization to determine the appropriate amount of each active to each the most optimal formulation.

Therefore, the claimed invention would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made because the prior art is fairly suggestive of the claimed invention.

### ***Response to Arguments***

Applicant's arguments filed November 17, 2008 have been fully considered but they are not persuasive.

Applicant argues that Jautelat et al. teaches prothioconazole can be used in combination with an exhaustive list of partners (i.e. tebuconazole), but do not teach spiroxamine. Applicant argues that Latteur et al. in combination with Jautelat et al. would not render the claimed invention obvious because Latteur et al. only teach the use of spiroxamine singly and only contemplates the possible effects of a mixture of two or more active ingredients at the same time.

These arguments are not persuasive. As discussed above, Jautelat et al. teach prothioconazole in combination with tebuconazole to widen the spectrum of activity against fungi (see column 32 lines 26-31). Latteur et al. teach spiroxamine is a useful fungicide. Thus, it would have been obvious to one of ordinary skill in the art to combine compounds that are taught by the prior art to be useful for the same purpose (*In re Kerkhoven*, 626 F.2d 846, 850, 205 USPQ 1069, 1072 (CCPA 1980)). And in the instant case, all the instant compounds are known fungicides and thus one of ordinary skill in



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the art would have combined known fungicides for the purpose of broadening activity against fungi.

Applicant argues that the experimental data provided by Applicant is consistent with the patentability of the invention. Applicant directs the Examiner's attention to Tables 1-3 and more specifically Table 3 in the instant specification (see pages 8-10). Tables 1- 2 disclose the efficacy of the instant compounds separately (at 125g/ha) and in combination at the instant ratio (55+35+35 g/ha). Table 3 disclose the instant compounds separately and at the instant ratio claimed (140+55+55 g/ha).

These results are not persuasive. Although Table 3 discloses an increased efficacy at the instant ratio versus each compound separately, Tables 1 and 2 do not represent consistent data. The ratio of the amount each compound used separately in Tables 1 and 2 would constitute a 1:1:1 ratio. However, the ratio used in Table 1 is 1:0.64:0.64 and in Table 2, the ratio is 1:0.24:0.24. Thus, the data is not consistent for one of ordinary skill in the art to determine whether an unexpected result has occurred. Furthermore, Applicant has not proved the combination of the instant compounds is anything more than an additive effect. For example, In Table 1, the efficacy of prothioconazole and tebuconazole is already at 78% when each is used singly. The efficacy of spiroxamine is 33%. One of ordinary skill in the art can reasonably assume that the efficacy of the compounds when combined would easily reach 100%.

***Declaration***

Applicant provided a 1.132 declaration that discloses the instantly claimed components combined in the instantly claimed ratios. Applicant compared the instant compounds at the instantly claimed ratios with a combination of compounds from WO 96/41533 at the same instant ratio claimed. The efficacy of the instantly claimed components at the instantly claimed ratio was higher than that of compounds from WO 96/41533 at the instantly claimed ratio.

This data is not convincing. Applicant has only provided data that shows that different compound combinations can result in different efficacies. Applicant compared the efficacy of the instantly compared compounds with that of different compounds from WO 96/41533. One of ordinary skill in the art can reasonably assume that since the compounds in the instantly compared combinations are not the same, the efficacy will not be the same. Applicant has not provided any data that compares the efficacy of the instantly compounds outside the instantly claimed ratio with the efficacy of the combined compounds within the instantly claimed ratio, for one of ordinary skill to ascertain whether an unexpected result has occurred

Thus, Applicant's evidence of nonobviousness is not persuasive.

***Conclusion***

6. No claims are allowed.
7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to KRISTIE L. BROOKS whose telephone number is (571)272-9072. The examiner can normally be reached on M-F 8:30am-6:00pm Est..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Johann R. Richter can be reached on (571) 272-0646. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

KB

/Mina Haghighatian/  
Primary Examiner, Art Unit 1616